

IN THE CLAIMS

Please amend claims 26, 54, 63, 64, 69, and 73 as indicated below.

Please cancel claims 47 and 55 without prejudice.

A listing of the status of all claims 1-73 in the present patent application is provided below.

1-25. (Cancelled)

26. (Currently Amended) A method for providing data, the method comprising the steps of:

backing up an original data store by intercepting all write commands that are directed to the original data store during a ~~substantially continuous~~ time interval, thereby accumulating backup data that enable restoration of the original data store to any point in time during the ~~substantially continuous~~ time interval;

receiving a request to create a virtual data store that reflects a state of the original data store at a specified time, the specified time selected from the ~~substantially continuous~~ time interval, the virtual data store being based on the backup data;

receiving a storage protocol request for data at a

specified address in the virtual data store; and

transmitting data stored in the original data store at the specified address at the specified time in response to the storage protocol request.

27. (Previously Presented) The method of claim 26 wherein the original data store comprises another virtual data store.

28. (Previously Presented) The method of claim 27 wherein the original data store comprises a current store and a time store.

29. (Previously Presented) The method of claim 26 wherein the virtual data store comprises a logical unit.

30. (Previously Presented) The method of claim 29 wherein both the request to create the virtual data store and the storage protocol request are received in a single protocol request packet.

31. (Previously Presented) The method of claim 29 wherein the request to create the virtual data store is received in a different data packet than the storage protocol request.

32. (Previously Presented) The method of claim 26 wherein the request to create the virtual data store is received via a user interface.
33. (Previously Presented) The method of claim 26 wherein the request to create the virtual data store is received via the storage protocol request.
34. (Previously Presented) The method of claim 26 wherein the storage protocol request comprises a standard read request.
35. (Previously Presented) The method of claim 34 wherein the storage protocol request comprises a SCSI read request.
36. (Previously Presented) The method of claim 26 wherein the storage protocol request comprises a Fibre Channel protocol request.
37. (Previously Presented) The method of claim 26 wherein the storage protocol request is received over a Fibre Channel physical layer.
38. (Previously Presented) The method of claim 26 wherein the

request to create the virtual data store is received from a host.

39. (Previously Presented) The method of claim 26 wherein the request to create the virtual data store is received from a network.

40. (Previously Presented) The method of claim 26 wherein the original data store comprises a current store and a time store.

41. (Previously Presented) The method of claim 26 wherein the virtual data store comprises a current store and a time store.

42. (Previously Presented) The method of claim 26 wherein the original data store comprises at least one terabyte of data.

43. (Previously Presented) The method of claim 42 wherein the original data store comprises multiple physical storage devices.

44. (Previously Presented) The method of claim 43 wherein the multiple physical storage devices comprise at least ten physical storage devices.

45. (Previously Presented) The method of claim 44 wherein the multiple physical storage devices comprise at least 100 physical storage devices.

46. (Previously Presented) The method of claim 26 wherein the virtual data store comprises a read only data store.

47. (Cancelled)

48. (Previously Presented) The method of claim 26 wherein the data is transmitted substantially instantaneously in response to the storage protocol request.

49. (Previously Presented) The method of claim 48 wherein the data is transmitted in less than 1 millisecond.

50. (Previously Presented) The method of claim 26, further comprising the step of writing data to the virtual data store in response to a storage protocol write request.

51. (Previously Presented) The method of claim 50 wherein the storage protocol write request comprises a standard write request.

52. (Previously Presented) The method of claim 51 wherein the storage protocol write request comprises a SCSI write request.

53. (Previously Presented) The method of claim 50 wherein the storage protocol write request comprises a Fibre Channel protocol request.

54. (Currently Amended) A method for providing data, the method comprising the steps of:

backing up an original data store by intercepting all write commands that are directed to the original data store during a ~~substantially continuous~~ time interval, thereby accumulating backup data that enable restoration of the original data store to any point in time during the ~~substantially continuous~~ time interval;

generating, substantially instantaneously and based on the backup data, a virtual data store that reflects the state of the original data store at a specified time, the specified time selected from the ~~substantially continuous~~ time interval;

receiving a storage protocol request for data at a specified address in the virtual data store; and

transmitting data stored in the original data store at the

specified address at the specified time in response to the storage protocol request.

55. (Cancelled)

56. (Previously Presented) The method of claim 55, further comprising the step of copying the virtual data store to another data store.

57. (Previously Presented) The method of claim 56 wherein the other data store comprise a virtual data store.

58. (Previously Presented) The method of claim 54 wherein the original data store comprise a virtual data store.

59. (Previously Presented) The method of claim 58 wherein the original data store is implemented as a current store and a time store.

60. (Previously Presented) The method of claim 54 wherein the virtual data store comprises a logical unit.

61. (Previously Presented) The method of claim 54, further

comprising, before the generating step, the step of receiving a request to create the virtual data store.

62. (Previously Presented) The method of claim 61 wherein the virtual data store is generated within one second of the request to create the virtual data store.

63. (Currently Amended) An article of manufacture having a computer-readable program portions contained therein for providing data, the article comprising:

a computer-readable program portion for backing up an original data store by intercepting all write commands that are directed to the original data store during a ~~substantially continuous~~ time interval, thereby accumulating backup data that enable restoration of the original data store to any point in time during the ~~substantially continuous~~ time interval;

a computer-readable program portion for receiving a request to create a virtual data store that reflects a state of the original data store at a specified time, the specified time selected from the ~~substantially continuous~~ time interval, the virtual data store being based on the backup data;

a computer-readable program portion for receiving a storage protocol request for data at a specified address in the virtual



data store; and

a computer-readable program portion for transmitting data stored in the original data store at the specified address at the specified time in response to the storage protocol request.

64. (Currently Amended) A system for providing data, comprising:

an original data store, the original data store being backed up by intercepting all write commands that are directed to the original data store during a ~~substantially continuous~~ time interval, wherein backup data are accumulated to enable restoration of the original data store to any point in time during the ~~substantially continuous~~ time interval;

a virtual data store that reflects a state of the original data store at a specified time selected from the ~~substantially continuous~~ time interval;

a virtual data store generator for generating the virtual data store based on the backup data;

a receiver for receiving a storage protocol request for data at a specified address in the virtual data store; and

a transmitter for transmitting data stored in the original data store at the specified address at the specified time in response to the storage protocol request.

65. (Previously Presented) The system of claim 64, further comprising a storage protocol write request.

66. (Previously Presented) The system of claim 65 wherein a standard I/O command comprises at least one of the storage protocol request and the storage protocol write request.

67. (Previously Presented) The system of claim 66 wherein the standard I/O command comprises a SCSI command.

68. (Previously Presented) The system of claim 67 wherein the standard I/O command comprises a Fibre Channel protocol request.

69. (Currently Amended) A method of receiving data from a data store, the method comprising the steps of:

selecting a specified time that is selected from a ~~substantially-continuous~~ time interval;

communicating to a storage device a request to create a virtual logical unit that reflects a state of a first logical unit at the specified time, wherein backup data associated with the first logical unit have been accumulated by intercepting all write commands that are directed to the first logical unit

during the ~~substantially-continuous~~ time interval, and wherein the virtual logical unit is created based on the backup data;

communicating to the storage device a storage protocol request for data in the virtual logical unit; and

receiving a response comprising the requested data as the data appeared in the first logical unit at the specified time.

70. (Previously Presented) The method of claim 69 wherein the step of receiving a response further comprises receiving a substantially instantaneous response to the storage protocol request.

71. (Previously Presented) The method of claim 70 wherein the first logical unit comprises at least one terabyte of data.

72. (Previously Presented) The method of claim 70 wherein the response is received in less than 1 millisecond.

73. (Currently Amended) An article of manufacture having computer-readable program portions contained therein for receiving data from a data store, the article comprising:

a computer-readable program portion for selecting a specified time that is selected from a ~~substantially-continuous~~

time interval;

a computer-readable program portion for communicating to a storage device a request to create a virtual logical unit that reflects a state of a first logical unit at the specified time, wherein backup data associated with the first logical unit have been accumulated by intercepting all write commands that are directed to the first logical unit during the ~~substantially continuous~~ time interval, and wherein the virtual logical unit is created based on the backup data;

a computer-readable program portion for communicating to the storage device a storage protocol request for data in the virtual logical unit; and

a computer-readable program portion for receiving a response comprising the requested data as the data appeared in the first logical unit at the specified time.